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# **Occupational mobility in Queensland's Aged Care, Automotive and Civil Construction sectors**

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## **Abstract**

Current trends in workforce development indicate the movement of workers within and across occupations to be the norm. In 2009, only one in three vocational education and training (VET) graduates in Australia ended up working in an occupation for which they were trained. This implies that VET enhances the employability of its graduates by equipping them with the knowledge and competencies to work in different occupations and sectors. This paper presents findings from a Government-funded study that examined the occupational mobility of selected associate professional and trades occupations within the Aged Care, Automotive and Civil Construction sectors in Queensland. The study surveyed enrolled nurses and related workers, motor mechanics and civil construction workers to analyse their patterns of occupational mobility, future work intentions, reasons for taking and leaving work, and the factors influencing them to leave or remain in their occupations. This paper also discusses the implications of findings for the training of workers in these sectors and more generally.

## **Keywords**

Occupational mobility; vocational education and training; aged care; automotive; civil construction; associate professionals; trades

## Introduction

In 2009, only one in three vocational education and training (VET) graduates in Australia ended up working in an occupation for which they were trained (NCVER 2010a). This implies that the flexibility of VET programs enhances the employability of its graduates by providing them with the knowledge and competencies to work in different occupations and sectors. Occupational mobility is an opportunity for workers to expand the diversity of work experiences and skills development. It also enhances the quality of Australia's globally competitive labour force. Given this, it could be detrimental to individual and workforce capability building to control or constrain the mobility of workers across occupations and sectors. For instance, preventing resources from flowing to the sectors where returns are highest could result in losses to both the individual and society. However, occupational mobility can lead to high turnover of skilled workers, skill shortages in occupations left by workers, higher costs for business, and lower investment in training by employers.

Government departments focusing on workforce development, particularly through VET, must be able to respond to the impact of workforce transitions to inform efficient planning, purchase and delivery of VET. However, the links between VET and occupational mobility are complex, and research on the effect of training on mobility in Australia is limited to studies such as the 2004 study by Shah and Burke that stressed the importance of "identifying individuals and labour market segments in need of training resources" (p. 2). In response to these factors, the Queensland Department of Education, Training and the Arts (now the Queensland Department of Education and Training) funded a study to explore occupational mobility in a way that could inform the development of strategies to assist or manage the process of mobility. This paper will firstly present key findings from the study and then discuss the implications of findings for the training of workers in the Aged Care, Automotive and Civil Construction sectors, and more generally.

## The concept of occupational mobility

In Australia, the Australian Standard Classification of Occupations (ASCO) classifies occupation groups. Occupational mobility refers to a change in occupation within or between Major occupation groups in the last 12 months (ABS 2007a:16). The model of occupational attainment identified by ASCO tends to analyse occupational mobility in terms of upward vs. downward movement. That is, a move to another occupation at a higher skill level as a 'progressive move', and a move from one occupation to another occupation at a lower skill level as a 'regressive move'. An alternative formulation, pioneered by Shaw (1987) and Harper (1995), and implemented in the study, is to compare those who move with those who stay, and to make the simplifying assumption that individuals move as part of a process of human capital accumulation. Therefore, while the study also examined the extent of progressive mobility, it used the same approach as Shah and Burke (2004) by focusing on occupational mobility in terms of moving vs. staying. Table 1 differentiates between 'movers' and 'stayers' in order to show movements that represent and do not represent occupational mobility. People who voluntarily or involuntarily became unemployed or left the labour force in the last 12 months are not 'movers' or 'stayers'.

Table 1. Movers vs. Stayers

<b>Movement by 4-digit occupation, ASCO Major group and employer</b>	<b>Mover or Stayer</b>
Stayed in the same 4-digit occupation for 12 months or more: <i>Same</i> ASCO Major group and <i>Same/different</i> employer	Stayer
Moved to a different 4-digit occupation at sometime in the last 12 months: <i>Same</i> ASCO Major group and <i>Same/Different</i> employer	Mover
Moved to a different 4-digit occupation at sometime in the last 12 months: <i>Different</i> ASCO Major group and <i>Same/Different</i> employer	Mover
Became unemployed in the last 12 months	Neither
Left the labour force in the last 12 months	Neither

## Method

The study examined the occupational mobility of selected associate professional and trades occupations from the Aged Care, Automotive and Civil Construction sectors in Queensland. The research focussed on three occupational groups: enrolled nurses, motor mechanics and civil construction workers - occupations experiencing ongoing skills shortages (DEEWR 2010). To supplement the small number of enrolled nurses working in Queensland, estimated at 2,946 for all sectors combined (ABS 2007b), the sample included assistants in nursing (AINs)/nursing assistants, personal care assistants, and registered nurses who were working in the Aged Care sector. Considering the diversity of the civil construction workforce, the sample included civil engineering associate professionals, plant operators, labourers, and other civil construction workers, including tradespersons.

The research set out to test a set of hypothesis relating to the following research questions:

1. What factors influence enrolled nurses and related workers, motor mechanics and civil construction workers in the Aged Care, Automotive and Civil Construction sectors, respectively, to leave or remain in their occupations?

Research question 1 also sought answers to the following questions:

- What are the skills and attributes of these skilled workers?
  - To what extent does training contribute to skilled workers moving to these occupations?
  - To what extent do poor wages and conditions (or other factors) contribute to skilled workers moving to any of these occupations?
2. To what extent are the findings generated from the above questions applicable to skilled workers in other occupations and industry sectors?
  3. What factors might be influential in managing occupational mobility?

The main data collection method was a survey consisting of questions related to demographic characteristics, skills and attributes, career development, wages and workplace conditions, and reasons for taking work with an employer and leaving an employer. The survey included questions that represent four measures of occupational mobility: *Current occupation same as previous occupation*; *Current industry same as previous industry*; *Changed job with current employer* (a proxy for progressive mobility); and *Transferred between locations while with current employer* (a proxy for progressive mobility). Due to the difficulties in accessing workers who had left their occupations, the survey also included questions to determine the future mobility intentions of participants, generating the measures of *Intention to leave current employer in new future (but not retire)*; *Intention to stay in same occupation (next job)*; and *Intention to stay in same industry (next job)*.

The study used a single-stage cluster sampling approach within each of the industry/occupation strata. Simple random sample of clusters was selected from each stratum, and data collected from every unit in the sampled clusters i.e. Aged Care, Automotive and Civil Construction. The study attracted 624 survey returns, which included 70 returns from the pilot study and 554 returns from the main study. Table 2 provides a breakdown of returns by occupation for the main study, showing 307 returns from the Aged Care sector 130 returns from the Automotive sector, and 117 returns from the Civil Construction sector. Because employee response rates for the Automotive survey and Civil Construction survey were low, estimates for motor mechanics and civil construction workers had higher standard errors than estimates for workers from the Aged Care sector. The project team conducted descriptive analyses to examine the demographic and workforce information of the participants. In order to identify the factors that might influence occupational mobility, the project team conducted inferential analyses using binary logistic regression to examine the associations between occupational mobility and a range of demographic and other variables of interest.

Table 2. Participants by sector and occupation, main study

Sector	Occupation	n	% of sector
Aged Care	Enrolled nurses/enrolled endorsed nurses	42	13.7%
	Assistants in Nursing (AINs)/nursing assistants	88	28.7%
	Personal care assistants	59	19.2%
	Registered nurses	95	30.9%
	Other	23	7.5%
	Missing	0	0.0%
	<b>Total Aged Care</b>	<b>307</b>	<b>100.0%</b>
Automotive	Motor mechanics	109	83.8%
	Other	20	15.4%
	Missing	1	0.8%
	<b>Total Automotive</b>	<b>130</b>	<b>100.0%</b>
Civil Construction	Labourers	28	23.9%
	Plant operators	10	8.5%
	Civil engineering associate professionals	14	12.0%
	Other Civil Construction workers (tradespersons)	32	27.4%
	Other	28	23.9%
	Missing	5	4.3%
	<b>Total Civil Construction</b>	<b>117</b>	<b>100.0%</b>
Total participants (N)		<b>554</b>	

## Findings

### *Review of existing studies on occupational mobility*

The study reviewed nine existing studies to identify factors found to influence occupational mobility that should be considered as part of the development of the survey instrument. These studies were as follows:

- Sommers and Eck (1977) analysed workforce status and occupational data from the US Census of Population to measure changes in work status and occupations between 1965 and 1970. They found the level of occupational mobility is linked to an individual's investment in education and training, incentives for staying in an occupation, and age i.e. younger people are more mobile because they tend to test their likes and dislikes and prepare themselves for career commitment (p. 6).
- Shaw (1987) used changes in the 3-digit coding of occupations to identify shifts in the employment of 1,450 participants from England's National Longitudinal Survey of Young Men. She found that occupational change declines with age and the increasing length of stay in a particular occupation. She also found that employers who invest in the development of the skills of their workers may lead to workers with lower levels of skills and knowledge moving into occupations requiring higher levels of skills and knowledge e.g. from labourer to tradesperson.
- Sicherman (1991) analysed the 1976 and 1978 waves of the US Panel Study of Income Dynamics data for males aged between 18 and 60 years. He concluded that overeducated workers have higher rates of firm and occupational mobility because they work in occupations that demand less schooling than they actually possess and represent a bad job match.
- Harper (1995) analysed data from approximately 20,000 employed or self-employed males, aged 16 to 43 years of age in 1974, drawn from the National Training Survey in England. He found that individuals are more likely to quit occupations if the yield (return on investment) is relatively great, their skills are transferable, the cost of occupational mobility is low, and they have previously quit occupations.

- Dolton and Kidd (1998) analysed data from a 1980 cohort of 2,291 male UK graduates from the Department of Employment survey. They found individuals with higher levels of investment in firm-based capital were more likely to remain in a firm with or without promotion, and individuals with occupationally specific or general human capital were more likely to change jobs or occupations.
- Tomkins and Twomey (2000) analysed data from England's New Earnings Panel Dataset to investigate occupational mobility between 1990 and 1994. They identified factors that promote or constrain mobility, such as age, ease of movement from home to work, qualifications, geographical location, wages, family responsibilities, and macroeconomic conditions that can change the supply of and demand for jobs in the labour market, to which workers may or may not respond.
- Shah and Burke (2004) analysed unpublished data from the Australian Bureau of Statistics' Labour Mobility survey for 2002 to estimate job and occupational mobility in terms of demographic, educational and labour market variables. They found that workers with higher-level qualifications are less mobile because their chances of re-employment in the same major occupation group are higher; and factors such as marital status, location, age, and employment status influence occupational mobility. In addition, they found good 'worker-job' and 'worker-firm' matches increase the probability of employers investing in training, thereby contributing to a lower turnover of workers.
- Shniper's (2005) compared occupational mobility data of 60,000 households collected as a supplement to the January 2004 US Current Population Survey (CPS) with mobility data collected in earlier CPS supplements. She found that occupational mobility rates are influenced by occupation type, industry of employment, and age i.e. older people have invested more time in education and training and have built more experience in an occupation (p.30).
- Rubb (2006) analysed data from various annual demographic supplements of the March 1995 to March 2001 US Current Population Surveys (CPS) for the years 1994 to 2000. He examined the impact of educational mismatches on earnings and occupational mobility to conclude that overeducated workers achieve greater upward occupational mobility and undereducated workers achieve lower upward occupational mobility.

The review of the above studies enabled the project team to identify key factors that influence occupational mobility as described below and summarised in Table 3:

- Mobility declines with age. Young people are most likely to change occupations, experiencing "intense job shopping and job search activities" early in their careers (Shah 2009:11).
- The longer workers stay in a particular occupation, the less likely they are to change occupations.
- Workers with lower levels of skills and knowledge (e.g. sales and service workers) are significantly more likely to change occupations than workers with higher levels of skills and knowledge (e.g. professionals) who tend to "make a job-to-job change in the same occupation" (Shah 2009:14).
- Workers in industries such as accommodation, hospitality, retail trade, communication services, and mining are most likely to change occupations, due to some extent to the large number of young people working in these industries and the seasonal nature of some of these industries.
- Males are more likely than females to move into different, higher paid occupations, which Tomkins and Twomey (2000) attribute to differences in preferences and opportunities for occupational movements.
- Non-married workers, part-time workers, and workers from non-metropolitan areas experience higher levels of occupational mobility.
- Workers with higher levels of investment in firm-based human capital (i.e. employed in firms where the level of training is high) experience lower levels of occupational mobility.
- Workers are most likely to change occupations when demand for other occupations is high. They may remain in their current occupation or be forced to change occupations during periods of high unemployment to ensure job security.

Table 3. Summary of factors that influence occupational mobility

Demographic characteristics	Employment
<ul style="list-style-type: none"> <li>• Age</li> <li>• Gender</li> <li>• Ethnicity (including English proficiency)</li> <li>• Income</li> <li>• Household type</li> <li>• Marital status</li> <li>• Geographic location</li> </ul>	<ul style="list-style-type: none"> <li>• Industry</li> <li>• Occupation</li> <li>• Full-time, part-time or self-employment</li> <li>• Employment status between occupations</li> <li>• Entry into the workforce</li> <li>• Private or public sector employment</li> <li>• Voluntary quit or involuntary quit from previous job</li> <li>• Number of previous moves between occupations</li> <li>• Years of experience in occupation/workforce</li> <li>• Wages</li> <li>• Non-wage conditions (work conditions)</li> <li>• Unionisation</li> </ul>
Education & training	Other
<ul style="list-style-type: none"> <li>• Qualifications</li> <li>• Level of specialised training</li> </ul>	<ul style="list-style-type: none"> <li>• Macroeconomic conditions</li> </ul>

### ***Patterns of occupational mobility in Australia***

Australian Bureau of Statistics' Labour Mobility survey indicated that 602,900 people who were working at the end of February 2010 had changed their occupations in the last 12 months. Just over 70% of these people had been with their current employer for less than 12 months. A greater number of males (323,100) than females (279,900) had changed occupations. Similar to some of the previous studies, people employed in occupations requiring lower levels of skills and knowledge were more likely to change occupations. For example, 56% of sales workers who had changed employers in the last 12 months had also changed occupations compared to 23% of professionals and 29% of technicians and trades workers (see Figure 1).

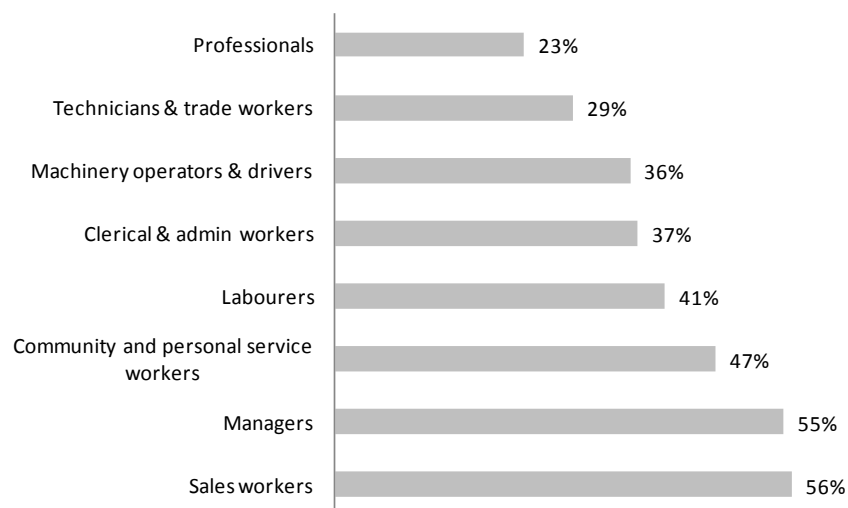


Figure 1: Percentage of people who had been with their employer for less than 12 months and who had changed their occupation, February 2010

Source: Australian Bureau of Statistics 2010

The national *Job Outlook* site provides data on the internet vacancy level, job prospects, and the gross replacement rate (i.e. proportion of workers leaving an occupation and needing to be replaced) for different occupations (Australian Government 2010). For motor mechanics, the internet vacancy level is high, job prospects are good, and the gross replacement rate of 9.6% is below the average for all occupations of 13.1% (see Table 4) - indicating a shortage of motor mechanics despite lower levels of occupational mobility. The occupations of labourers (17.4%), nursing support and personal care workers (14.2%), and other mobile plant operators (14.5%) recorded gross replacement rates above the average.

Table 4. Factors that influence occupational mobility

Occupation	Internet vacancy level	Job prospects	Gross replacement rate (%)
Enrolled and mother craft nurses	Moderate	Good	10.5%
Nursing support and personal care workers	Moderate	Good	14.2%
Motor mechanics	High	Good	9.6%
Building & plumbing labourers	Moderate	Average	17.4%
Civil engineering draftspersons & technicians	Very high	Good	9.3%
Other mobile plant operators	High	Average	14.5%
Average gross replacement rate			13.1%

The National Centre for Vocational Education Research (NCVER) collects data on the destinations of existing workers and new workers approximately nine months after completing an apprenticeship or traineeship (NCVER 2010b). This data provides insights into the possibility of existing workers experiencing progressive mobility by moving into occupations that require higher levels of skills and knowledge. The results are positive, with just over 80% of existing workers employed in occupations for which they were trained compared to 66.1% of new workers.

### ***Profiles of study participants***

Participants from the **Aged Care sector** were more likely than participants from the other two sectors to be older, female, living in a 'couple-only' household, holding a Diploma level qualification or higher, undertaking self-funded work-related study/training, working fewer hours each week, working in a non-profit and/or large organisation, employed for a longer period of time, and earning an average of \$20 an hour. Only 8.5% of participants were aged 30 years or younger. The main differences between *enrolled nurses* and other participants from the Aged Care sector were that they were older, employed for a longer period of time, working fewer hours each week, and earning a higher hourly rate. Around 67% of the participants from the Aged Care sector had qualifications relevant to their occupation.

Participants from the **Automotive sector** were more likely than participants from the other two sectors to be younger, single, enrolled in a work-related Certificate course, undertaking employer-funded studies away from the workplace, working in a business and/or small to medium-sized organisation, and earning an average of \$14 an hour. As *motor mechanics* accounted for 83.8% of participants from the Automotive sector, key findings for these participants were similar to findings for the Automotive sector as a whole. Almost 70% of motor mechanics had qualifications relevant to their occupation.

Participants from the **Civil Construction sector** were more likely to be self-employed, working in a business and/or large organisation, working longer hours, paid at above the award rate, employed by their current employer for a shorter period of time, and earning a higher income. *Labourers* were more likely than other participants from the Civil Construction sector to be single, have lower levels of English proficiency, have no non-school qualifications (35.7% had no qualifications), and less likely to be involved in work-related education and training. There was not a lot of difference in the hourly rates of pay, ranging from an average of \$25.10 an hour for *labourers* to an average of \$28.56 an hour for *civil engineering associate professionals*. Almost half (48.7%) of the participants had qualifications relevant to their occupation, and the majority of *Other Civil Construction workers* (96%) and all of the *civil engineering associate professionals* (100%) had qualifications relevant to their occupation.



### Participants' patterns of occupational mobility

Figure 2 and Table 5 show participants from the **Aged Care sector** were more likely than participants from the other two sectors to work in an occupation and industry that were different to their previous occupation (46.9%) and industry (38.1%). *Enrolled nurses* indicated lower levels of occupational mobility and *AINs/nursing assistants* and *personal care assistants* indicated higher levels of occupational mobility. Participants from the Aged Care sector who had changed occupations had mainly worked in related occupations such as community carer, cleaner/domestic, kitchen hand, and disability services worker.

Participants from the **Automotive sector** were less likely than participants from the other two sectors to work in an occupation and industry that were different to their previous occupation (30.8%) and industry (28.5%). Participants who reported previously working in a different occupation worked in a range of occupations, some of which were related to their current occupation such as diesel mechanic, hydraulic fitter, and car detailer.

*Labourers* were more likely than other participants from the **Civil Construction sector** to work in an occupation and industry that were different to their previous occupation (46.4%) and industry (39.3%). *Other Civil Construction workers* (e.g. tradespersons) indicated low levels of occupational mobility, with only 12.5% working in an occupation that was different to their previous occupation and 15.6% working in an industry that was different to their previous industry of employment. Those participants who reported previously working in a different occupation mainly worked in related occupations such as carpenter, mechanic, drainer operator, and boat builder.

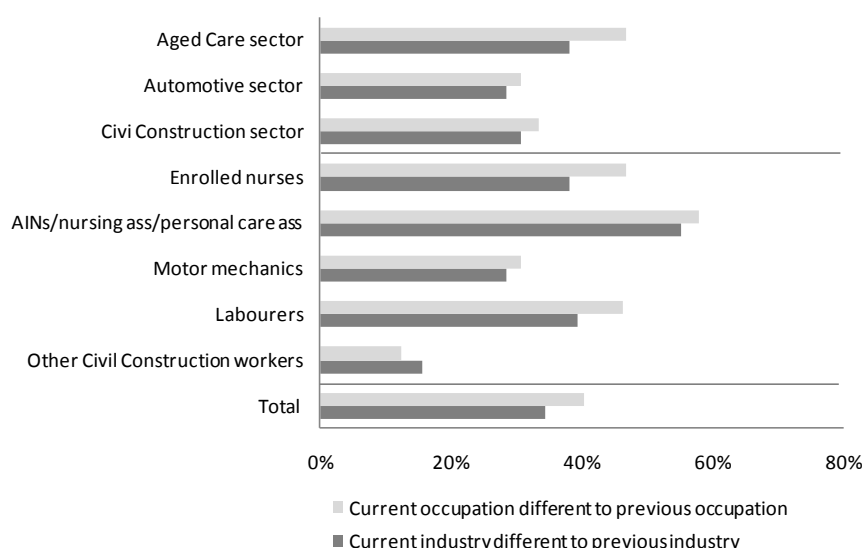


Figure 2: Percentage of participants working in different occupations and industries

Participants also indicated their *Intention to stay in same occupation (next job)*, *Intention to stay in same industry (next job)*, and *Intention to leave their current employer in new future (but not retire)*. As shown in Figure 3, participants from the Civil Construction sector (except labourers) were significantly less likely than participants from the other two sectors to indicate an intention to change their occupation (12%) and industry of employment (9.4%). Participants from the Aged Care sector (23.8%) were more likely than participants from the Automotive sector (20%) and Civil Construction sector (17.9%) to indicate an intention to leave their current employer in the near future.

Findings from the two proxy measures of progressive mobility, *Changed jobs while with current employer* and *Transferred between locations with current employer*, suggest that a relatively small number of participants had moved into occupations requiring higher levels of skills and knowledge. Only 13.5% had changed occupations while with their current employer and 14.8% had transferred between locations with their current employer. *Registered nurses* and *Other Civil Construction workers* were more likely than *personal care attendants*, *enrolled nurses*, *motor mechanics*, and *labourers* to have changed occupations or been transferred between locations while with their current employer.

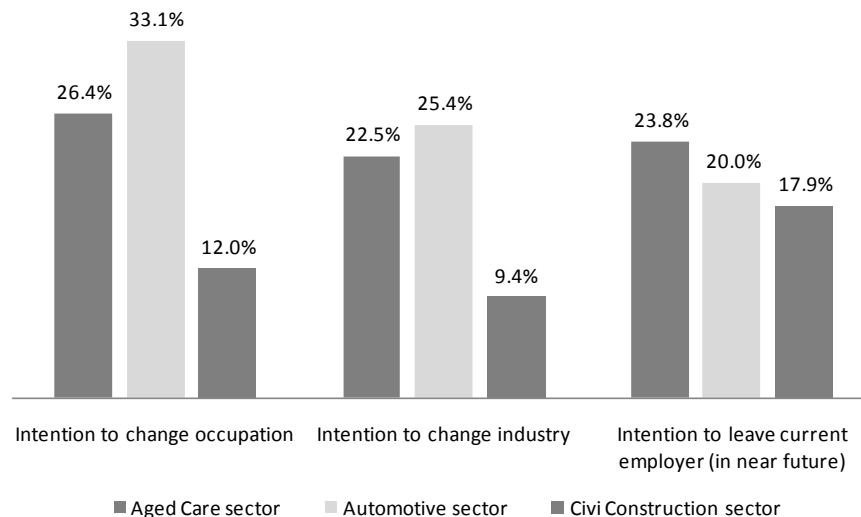


Figure 3: Intention to leave occupation, industry and current employer

Table 5. Patterns of occupational mobility

Occupational mobility measure	No (n)	%	Yes (n)	%	Missing (n)	%	Total (N)
<i>Current occupation same as previous occupation</i>							
Aged Care	144	46.9%	135	44.0%	28	9.1%	307
Automotive	40	30.8%	57	43.8%	33	25.4%	130
Civil Construction	39	33.3%	64	54.7%	14	12.0%	117
Total	223	40.3%	256	46.2%	75	13.5%	554
<i>Current industry same as previous industry</i>							
Aged Care	117	38.1%	160	52.1%	30	9.8%	307
Automotive	37	28.5%	57	43.8%	36	27.7%	130
Civil Construction	36	30.8%	65	55.6%	16	13.7%	117
Total	190	34.3%	282	50.9%	82	14.8%	554
<i>Changed jobs while with current employer</i>							
Aged Care	216	70.4%	44	14.3%	47	15.3%	307
Automotive	79	60.8%	12	9.2%	39	30.0%	130
Civil Construction	71	60.7%	19	16.2%	27	23.1%	117
Total	366	66.1%	75	13.5%	113	20.4%	554
<i>Transferred between locations with current employer</i>							
Aged Care	219	71.3%	38	12.4%	50	16.3%	307
Automotive	81	62.3%	12	9.2%	37	28.5%	130
Civil Construction	58	49.6%	32	27.4%	27	23.1%	117
Total	358	64.6%	82	14.8%	114	20.6%	554
<i>Intention to leave current employer in the near future (but not to retire)</i>							
Aged Care	226	73.6%	73	23.8%	8	2.6%	307
Automotive	98	75.4%	26	20.0%	6	4.6%	130
Civil Construction	81	69.2%	21	18.0%	15	12.8%	117
Total	405	73.1%	120	21.7%	29	5.2%	554
<i>Intention to stay in same occupation (next employer)</i>							
Aged Care	81	26.4%	112	36.5%	114	37.1%	307
Automotive	43	33.1%	51	39.2%	36	27.7%	130
Civil Construction	14	12.0%	68	58.1%	35	29.9%	117
Total	138	24.9%	231	41.7%	185	33.4%	554
<i>Intention to stay in same industry (next employer)</i>							
Aged Care	69	22.5%	152	49.5%	86	28.0%	307
Automotive	33	25.4%	69	53.1%	28	21.5%	130
Civil Construction	11	9.4%	75	64.1%	31	26.5%	117
Total	113	20.4%	296	53.4%	145	26.2%	554

### ***Reasons why participants take and leave work***

When ***taking work with an employer***, stayers were highly influenced by the reasons of 'treated with respect', 'occupation is secure into the future', and 'can apply and develop skills at work'. Movers were highly influenced by the reasons of 'enjoy tasks undertaken', 'treated with respect', and 'hours of work predictable'. When ***leaving an employer***, stayers were highly influenced by the reasons of 'family and personal reasons', 'higher salary elsewhere', and 'occupation advancement elsewhere'. Movers were highly influenced by the reasons of 'leaving to retire', 'financial difficulties', and 'leaving to study'.

By sector, participants from the Aged Care sector were highly influenced by the reasons of 'enjoy tasks undertaken' and 'flexible employment' when ***taking work with an employer***, and 'family and personal reasons' when ***leaving an employer***. Participants from the Automotive sector and Civil Construction sector tended to take work with an employer and leave an employer for income-related reasons. The reason of 'Occupation is secure into the future' was also important to stayers from the Automotive sector.

### ***Factors influencing occupational mobility***

Research question 1 enquired into the factors that influence enrolled nurses and related workers, motor mechanics, and civil constructions workers in the Age Care, Automotive and Civil Construction sectors respectively to stay in or leave their occupations. It also enquired into the factors that influence moves into occupations requiring higher levels of skills and qualifications i.e. progressive mobility. Research question 2 enquired into the extent to which findings are applicable to skilled workers in other occupations and sectors. Key findings from the analysis of survey data are as follows:

- Factors associated with a *higher likelihood* of occupational mobility for participants combined were 'marital status of never married', 'engaged in work-related Certificate', 'previous occupation temporary/casual', and 'penalty rates/bonuses'.
- Factors associated with a *lower likelihood* of occupational mobility for participants combined were 'age', 'educational attainment of part Certificate', 'hours worked', 'years worked', 'years worked after returning to the workforce', 'pay above award with current employer', and 'promotional opportunities/higher income/sufficient income with current employer'.
- Participants from the Aged Care sector had a *higher likelihood* of occupational mobility and participants from the Civil Construction sector had a *lower likelihood* of occupational mobility.
- No variables/factors were associated with a *higher likelihood* of **progressive mobility** as indicated by the proxy measures of *Changed job with current employer* and *Transferred between locations while with current employer*.
- Factors associated with a *lower likelihood* of **progressive mobility** were 'age', 'previously worked for a large organisation', 'number of employers in the last 2 years', 'previously self-employed', 'promotional opportunities', 'net personal income', 'left previous occupation for higher salary', and 'hours worked'.

### ***Implications for training***

This paper so far has focussed on mobility patterns of study participants, their future work intentions, their reasons for taking work and leaving work, and the factors found to influence them to leave or remain in their occupations. This section of the paper will discuss the implications of findings for the training of workers in the three sectors and more generally.

#### ***General implications***

For some time, Governments in Australia have invested in initiatives to increase the number of young people who complete Certificate III completions (especially in trades qualifications); increase the number of unqualified, underqualified and older workers participating in VET; and increase the number of people with higher level qualifications. Recent Commonwealth Government initiatives contributing to these aims include extending the *Apprenticeship Kickstart* scheme by 22,500 trade apprenticeships; creating 39,000

additional training places for industries suffering shortages as part of the new *Critical Skills Investment Fund*; and in partnership with industry, funding 11,000 extra training places for existing workers as part of its *Enterprise Based Productivity Places Program* (Gillard & Swan 2010; Gillard 2010.) The *Queensland Skills Plan 2008* includes a range of short and long term initiatives to alleviate skill shortages at all occupational levels by focusing on five key areas: developing the skills of existing workers and apprentices; engaging unemployed and under-employed people; improving youth transitions to enhance education, training and employment outcomes; building the capacity of the Queensland vocational education and training sector; and building bridges to the profession (DETA 2008). Both the State and Commonwealth Government have recently set up dedicated bodies, known respectively as Skills Queensland and Skills Australia, to assess industry skills needs, direct government investments in training, and recommend reforms to the VET system.

Training at the Certificate III level accounted for two-thirds of all commencements for the year ending March 2010 and the training of young people aged 19 years and under accounted for 40% of all commencements in this period (NCVER 2010d). Similar to previous studies, the study found the factors of age, marital status, and qualifications influence mobility. These findings, together with attrition rate data from the NCVER (2010d), indicate that young, single apprentices and trainees engaged in work-related Certificate courses are most likely to leave their jobs and change occupations; putting at risk the future supply of qualified workers in occupations where demand is high. The ongoing challenge for Governments is how best to assist young people to complete Certificate III qualifications, particularly technical and trades qualifications. ABS labour mobility data and findings from this study indicate that a high proportion of qualified technicians and trades workers remain in the occupation they were trained for. Studies by Smith, Oczkowski and Selby Smith (2008) and Richardson (2004) indicate that employers play a significant role in ensuring that young apprentices and trainees complete Certificate III qualifications by creating a 'learning culture' that supports both on-the-job training and informal learning, provides opportunities for advancement and growth, and recognises skills and strengths (Smith et al. 2008:39). Changing the attitudes of students who are potential apprentices and trainees is also a challenge. Students identified several perceived disincentives to entering an apprenticeship, many of which are reasons why young people drop out of training: low rates of pay, poor work conditions, unsuitable working hours, inadequate training arrangements, and the scarcity of opportunities for apprenticeships (especially in rural areas) (Misko, Nguyen & Saunders 2007:19).

Workers with high levels of skills and knowledge tend to have lower levels of occupational mobility and are more likely to experience progressive mobility. In addition, the attrition rate for apprenticeships and traineeships leading to professional occupations at 19.3% in 2009 was significantly lower than the overall attrition rate of 38.8% (NCVER 2010e). These findings confirm the importance of Government initiatives targeting higher-level VET qualifications. However, Foster, Delaney, Bateman and Dyson (2007) found that many employers do not understand the role and value of higher-level qualifications, which explains to some extent why enrolments in Diplomas, Associate Degrees and Advanced Diploma combined only accounted for 15% of VET qualifications in 2009 (NCVER 2010).

As already stated, 'age' and 'years worked' are key factors associated with lower levels of occupational mobility, with older participants less likely than younger workers to change occupations. On the positive side, these factors may lead to older, highly skilled workers remaining in occupations in high demand. On the negative side, these workers may be reluctant to change occupations despite a fall in demand, which could result in their skills becoming obsolete. Those older workers who need training to address skills gaps may face barriers to participation, such as negative employer attitudes, lack of information about options, work and family commitments, financial difficulties, and their own attitudes to participation - including doubts about their ability to succeed (Ferrier, Burke & Shelby Smith 2008). As a result, employers may overlook them for training programs and career opportunities despite their experience and knowledge, maturity, strong commitment and work ethic, and reliability (CDAA 2010).

The review of existing studies on occupational mobility indicated higher levels of firm-based investment in human capital reduce occupational mobility. Given that many participants indicated 'apply and develop skills at work' as a main reason for taking work with an employer, it is a concern that almost 70% of all

participants and 22.7% of participants aged 19 years or under were not engaged in any work-related study/training at the time of the survey. These results are not surprising considering the Mawer and Jackson (2005) study that involved 12 case studies of SMEs in the retail, manufacturing, and building and construction industries. They concluded that employers value experience and skills rather than accredited training, lack knowledge of the format VET system, use accredited training mainly to meet mandated requirements, and train existing workers when specific needs arise (pp. 5-6).

This study confirmed workers with lower levels of skills and knowledge experience higher levels of occupational mobility. Although the analysis of survey data did not show any association between 'no post-school qualifications' and occupational mobility, the high rate of mobility of AINs/nursing assistants (62.7% had changed occupations), personal care attendants (54.5%), and labourers (46.4%) supports this finding. A lack of post-school qualifications limits opportunities to experience progressive mobility. For example, almost 60% of motor mechanics with no post-school qualifications remained in the same occupation. Shaw (1987) recommended greater investment by employers in training to increase the likelihood of progressive mobility of people with low levels of educational attainment, skills, and wages. However, Mawer and Jackson (2005) found that employers do not perceive a high need for training for lower skilled workers. Skills Australia's 2010 discussion paper, *Creating a future direction for Australian vocational education and training*, called for employers to better utilise the skills of workers "by creating better job design, by better management, and by better matching of skills to business strategy or organisational development" (p. 10).

### ***Aged care sector***

The clientele of the Aged Care sector is growing, changing, and requiring higher-level care. The number of Australians aged 85 years and over is estimated to increase from 400,000 in 2010 to 1.8 million by 2050 (Treasury 2010). The National Health and Hospital Reform Commission predicted that aged care places must at least double by 2030 to meet projected demand (Productivity Commission 2010:1). The Productivity Commission's issues paper, *Caring for Older Australians*, stated that aged care services will become more diverse because of changing patterns of disease among the aged; growing and substantial affluence among older Australians; increasing diversity among older Australians in preferences and expectations; and improvements in care technologies (2010:1).

Expanding the size, skills and qualifications of the workforce is essential to meeting the above challenges in a complex, labour-intensive sector. In its 2008 Research Report, *Trends in Aged Care Services: some implications*, the Productivity Commission found that pay rates, workloads, workforce culture, scope of practice, opportunities for training and career development, and changing consumer needs and preferences are affecting the recruitment and retention of workers. To some extent, these factors are responsible for personal carers accounting for a significant share of the direct residential workforce (63.6% in 2007) because registered and enrolled nurses prefer to work in other sectors. Participants involved in this study also identified a number of barriers to training and career pathways in the Aged Care sector:

- A social hierarchy from registered nurse, to enrolled nurse, to AIN
- The scope of practice, accountability and valuing of different nursing roles
- Lack of understanding of the qualifications frameworks and career pathways
- Lack of exposure to the Aged Care sector, through for example, work experience
- Higher expectations of the different nursing roles without tangible rewards.

Similar to the Productivity Commission (2008), this study described a typical employee in the Aged Care sector as female, older than other employees, and working shorter hours. Average weekly income of only \$624 and reasons for taking and leaving work (such as 'enjoy tasks undertaken', 'flexible employment', and 'family and personal reasons') indicate money is not a key motivator within the Aged Care sector. Different intrinsic and extrinsic motivators are operating in this culture driven by age, gender, and work-life balance. These same motivators might not attract the next generation of workers, as they will be part of a new mindset that will perhaps require a more clearly defined training and qualification pathway. Only

26 of the 307 participants in this study were aged 30 years or younger. Many of these participants were highly motivated by income-related reasons and the opportunity to 'apply and develop skills at work'; two key issues affecting the ability of the sector to attract and retain workers.

Another concern is the finding from this study that working in the Aged Care sector is associated with higher levels of occupational mobility. This finding is largely due to the large number of participants working as *AINs/nursing assistants* and *personal care assistants* (almost 50% of the sample) who indicated higher levels of mobility than other participants from the sector. Around one-quarter of all participants in the Aged Care sector indicated they would change occupations (26.4%) and industry of employment (22.5%) when next employed and leave their current employer in the near future (23.8%).

The above figures are not good news for Queensland Government initiatives that aim to attract and retain workers. These initiatives include the *Health Workforce Skills Capacity Development Program*, *Nursing Work/Study Pathways Program*, and *Queensland Health Skills Formation Strategy*, which aims to identify barriers to industry development, determine the workforce needs and solutions, and explore the integration of skills and work policy across the health industry (Health and Community Services Workforce Council 2006, 2008).

### **Automotive sector**

Rapid technological change and associated 'innovation intensity', the ageing workforce, short-shelf life of skills, increasing customer expectations, competition for workers from other sectors, and poor public image (i.e. poorly paid, hard work, dirty, and little prospect for advancement) are ongoing issues facing the Automotive sector (DET 2006; QASA 2007a; QASA 2009). Workers require constant up-skilling in a range of areas including engine management systems, emissions control, vehicle safety systems, occupational health and safety and GPS navigation as well in the areas of soft skills, business management skills, and green skills. The Queensland Department of Education and Training (2009) predicts the future trend to alternative fuel vehicles, hybrid and ultimate fuel cell technology will significantly affect the training requirements of the sector and training content delivered to apprentices. The Government has recognised the importance of the sector by identifying it as one of the 17 skilling priorities areas, and investing \$30 million in apprenticeships and traineeships and other vocational training in 2009/2010.

Employers are also under increasing pressure to invest further in the training of employees, particularly at the higher qualification level (QASA 2009:22). Some employees work in large, franchised dealerships with access to modern technologies, clean safe environments, and up-to-date specialised training provided by the employer. Often the large employers have career structures and human resources practices in place that enable career progression as well as career change within the same firm. Such firms are also able to offer greater flexibility to workers thus enhancing retention. However, the sector is predominately composed of small businesses, with less access to specialised training and up-to-date technologies, smaller economies of scale, and usually less training opportunities for employees (QASA 2007b). This study found that almost two-thirds of participants were working in small and medium businesses (SMEs). The majority of participants (85.7%) working in small businesses were not undertaking any work-related training compared to 62.8% of participants working in large businesses with over 100 employees. Overall, around 20% of participants from the sector did not have any post-school qualifications.

One-third (33.1%) of participants from the Automotive sector indicated they would leave their occupation when they next changed employers. As well as quite low levels of work-related training described above, other key factors identified in this study that may encourage them to leave their occupation were low pay rates (e.g. average weekly income of \$582), and the high number of participants aged between the 16 and 25 years and undertaking work-related Certificates. Although some participants indicated they would remain in their occupation because it was 'secure into the future', many others were motivated to stay and leave work for income-related reasons.

### **Civil Construction sector**

Participants from the Civil Construction sector work in busy work sites within a complex, dynamic, unpredictable, and intensely competitive industry sector. Training is constrained by a sector dominated by

subcontracting and casual employment. Workers are increasingly required to have skills in project management, business skills, customer service, and new technologies. In the case of new technologies, some workers need specialist knowledge on new construction materials and skills in computer-based applications in design, procurement, communication and management. Workers also need to be aware of occupational health and safety, regulatory and licensing requirements that are relevant to their jobs (Mawer & Jackson 2005; CPSISC 2006).

The single biggest issue facing the construction sector worldwide has been chronic skills shortages. Despite the Global Financial Crisis, strong demand for skilled workers in Queensland is likely to continue for some time given major investments in infrastructure projects as part of the Queensland Government's \$82 billion *South East Queensland Infrastructure Plan and Program 2007-2026* and the Federal Government's *Nation Building and Occupations Plan*. More recently, Queensland's *Coal Steam Gas (CSG) to Liquefied Natural Gas (LNG) Industry Workforce Plan (Construction Phase)* estimated a need for 9,000 workers, with workers from the Heavy & Civil Engineering Construction subsector identified as the best equipped to work in construction roles (Construction Skills Queensland 2010). Strong demand for workers explains to some extent why participants indicated an average income of \$1,201 a week (the highest of all three sectors), and except in the case of *labourers*, why participants indicated lower levels of occupational mobility than participants from the other two sectors.

The Queensland Government has made a significant investment in initiatives to attract, train and retain new entrants and existing workers in the Civil Construction sector. As part of its first (2006) *Queensland Skills Plan*, the Queensland Government launched the \$1 million *Civil Infrastructure Skills Formation Strategy* to encourage joint responsibility for training and skills development. It also launched the *Civil Infrastructure Vocational Education and Training Action Plan* in October 2007, which included an estimate of a need for over 34,000 new workers (Construction Skills Queensland and Queensland Department of Education 2007). The *Queensland Skills Plan 2008* includes further initiatives, such as the *Innovative Skilling Partnerships Program – Engineering and Construction*, dual trade opportunities in a number of trades, and developing civil school-based programs.

This study found that workers in the sector vary in terms of their occupations, qualifications, participation in work-related training, employment type (business, self-employed), and mobility patterns. What participants seem to have in common is working for income-related reasons. This can result in skilled workers moving into related and unrelated occupations with higher wages as well as workers withdrawing from training or not pursuing training because they can secure higher wages without having the necessary qualifications and training. Almost 30% of participants did not have any post-school qualifications and over 80% of participants did not report any work-related study/training. As demand for workers and high wages are likely to continue for some time, many unqualified or under-qualified workers may not take advantage of Government incentives to participate in training.

## Conclusion

The aim of this paper was to present key findings from a Government-funded study that examined the occupational mobility of enrolled nurses and related workers, motors mechanics, and civil construction workers from Queensland's Aged Care, Automotive and Civil Construction sectors, respectively. The study involved identifying participants' mobility patterns of study participants, their future work intentions, their reasons for taking work and leaving work, and the factors found to influence them to leave or remain in their occupations.

The review of existing studies identified a range of factors that influence mobility, such as age, gender, marital status, educational attainment, occupation, industry of employment, level of specialised training, years of experience in the workforce, employment type (i.e. part-time, full-time, self-employed), geographical location, wages, and macroeconomic conditions. This study confirmed many of the findings from these studies. For example, factors associated with a *higher likelihood* of occupational mobility for participants were 'marital status of never married', 'engaged in work-related Certificate', 'previous occupation temporary/casual', and 'penalty rates/bonuses'. Factors associated with a *lower likelihood* of

occupational mobility for participants were 'age', 'educational attainment of part Certificate', 'hours worked', 'years worked', 'years worked after returning to the workforce', 'pay above award with current employer', and 'promotional opportunities/higher income/sufficient income with current employer'.

The study identified differences in the mobility patterns of participants. For example, enrolled nurses who were qualified, older and had been in the workforce longer (factors that discourage mobility) indicated lower levels of occupational mobility than AINs/nursing assistants and personal care assistants who were younger, less qualified and working in occupations requiring lower levels of skills and knowledge (factors that encourage mobility). The same is true for the Civil Construction sector when comparing the mobility patterns of civil engineering associate professionals and tradespersons with those of labourers. Participants from the Automotive sector were least likely to change occupations, despite the sample including younger, single workers undertaking Certificate level qualifications and about 20% of participants not having any post-school qualifications (factors that encourage mobility).

The study also found differences in the reasons given by participants for taking work with an employer and leaving an employer. Participants from the Aged Care sector were motivated by the reasons of 'enjoy tasks undertaken', 'flexible employment' and 'family and personal reasons' whereas participants from the other two sectors were motivated by income-related reasons. Participants from the Automotive sector were also motivated by the reason of 'Occupation is secure into the future', which may explain why participants from this sector experienced lower levels of mobility than participants from the other two sectors. Many participants were also motivated by the reason of 'can apply and develop skills at work' when taking work with an employer.

Finally, this paper discussed implications of the findings for each sector and generally. Despite Government initiatives targeting apprentices and trainees, existing workers, and people seeking to undertake higher-level qualifications, the mobility patterns of participants suggest it will take some time for the three sectors to attract, train and retain enough workers to address ongoing skills shortages. Around 40% of participants were in a different occupation to their previous occupation; 34% were in a different industry to their previous industry; 25% of participants intend to change occupations when they change employers; 20% of participants intend to change industries when they change employers; and 22% of participants intend to leave their current employer in the near future to work elsewhere. The results are due to some extent to the number of participants working in occupations requiring lower levels of skills and knowledge (around 30% of all participants). These participants indicated higher levels of occupational mobility than did other participants. As already stated, workers employed in organisations which are committed to training are more likely to move into occupations requiring higher levels of skills and knowledge (i.e. to experience progressive mobility) and to stay longer with their current employer. However, this study found that 70% of participants were not undertaking any work-related study/training, and only 19% of participants were undertaking employer-sponsored study/training at the time of the survey.

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